UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

In re Flint Water Cases

Judith E. Levy
United States District Judge

_____/

This Order Relates To:

Bellwether I Cases
Case No. 17-10164
_____/

OPINION AND ORDER DENYING DEFENDANTS VEOLIA NORTH AMERICA, LLC, VEOLIA NORTH AMERICA, INC., AND VEOLIA WATER NORTH AMERICA OPERATING SERVICES, LLC'S MOTION TO EXCLUDE THE TESTIMONY AND REPORT OF DR. AARON SPECHT [343]

This opinion is one in a series addressing the admissibility of the testimony and reports of eight experts retained by Plaintiffs in anticipation of the first bellwether trial, currently set to begin on February 15, 2022. Defendants argue that none of these experts can meet the standards set by Fed. R. Evid. 702 and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993).

Currently before the Court is the motion by Veolia North America, LLC, Veolia North America, Inc., and Veolia Water North America

Operating Services, LLC (collectively "VNA") to exclude the testimony and report of Dr. Aaron Specht. (ECF No. 343.) The LAN and LAD Defendants join VNA's motion. (ECF No. 344.) For the reasons set forth below, VNA's motion to exclude is DENIED.

I. Background

Dr. Aaron Specht is a research associate at the Harvard School of Public Health. (ECF No. 368-3, PageID.23411.) Dr. Specht has a Ph.D. in medical physics and is a leading expert on the use of portable x-ray fluorescence technology ("pXRF") to assess metal exposures. Dr. Specht has published widely on the use of pXRF to measure bone-lead content in adults, children, and animals. His qualifications as an expert are not in dispute.

Plaintiffs retained Dr. Specht to evaluate their possible exposure to lead by conducting bone lead tests using pXRF technology. Dr. Specht took pXRF bone lead measurements of all four bellwether Plaintiffs and concluded that all of them were subjected to "substantial" lead exposure. (ECF No. 330-48, PageID.15638, 15640–15641, 15643.) In a clinical setting, lead poisoning is generally evaluated through blood tests, but Dr. Specht opined that bone lead measurements are a more reliable indicator

of exposure. (*Id.* at PageID.15627–15629.) That is because in children, lead quickly moves from the blood to the bones. *Id.* Thus, while evidence of exposure might disappear from a child's blood in less than two weeks, it will remain in the child's bones for much longer. *Id.*

Ordinarily bone lead measurements are taken by a large, stationary "KXRF" device. It takes approximately 30 minutes to get an accurate measurement using KXRF technology. Dr. Specht pioneered the use of the alternative pXRF device. Portable-XRF and KXRF devices measure bone lead in substantially the same way. (ECF No. 330-48, PageID.15629–15630.) Both are applied to the subjects' tibia bone, and both generate raw spectral data which is then processed by a computer to generate a relevant measurement (in this case, lead content) and an associated uncertainty value (the margin of error). Portable-XRF devices are small, easily portable, and require only 3 minutes to complete a measurement.

Portable-XRF bone lead measurements have been shown to be as reliable as KXRF measurements in most circumstances. *See, e.g.,* Aaron Specht et. al., *Portable XRF Technology to Quantify Pb in Bone In Vivo*, 2014 J. Biomark, 398032 (2014) ("Specht (2014)"); Xixin Zhang et al.,

Evaluation of a portable XRF device for in vivo quantification of lead in bone among a US population, 753 Sci. of the Total Environ. 142351 (2021) ("Zhang (2021)"). The reliability of pXRF decreases when the soft tissue thickness of the subject exceeds 5-6 mm. *E.g.*, Specht (2014) at *7; Zhang (2021) at *4.

Dr. Specht has twice published on the use of pXRF to measure bone lead in children. *See* Aaron Specht et al., *Childhood lead biokinetics and associations with age among a group of lead poisoned children in China*, 29 J. Expo. Sci. Environ. Epidemiol. 416 (2019) ("Specht (2019a)"); Aaron Specht et. al., *XRF-measured bone-lead (Pb) as a biomarker for Pb exposure and toxicity among children diagnosed with Pb poisoning*, 21 Biomarkers 4, 347–52 (2016) ("Specht (2016)"). At the time of those studies, pXRF measurements were found to be less reliable in children than in adults because (1) children generally have more soft tissue in the measurement area and (2) Dr. Specht had not yet found a reliable calibration for the measurement of subjects with greater than average skin tissue thickness. *See* Specht (2019) at *8 (concluding that "further investigation" was necessary regarding use of pXRF to measure bone lead in children). However, the higher average uncertainty of the

measurements on children in these studies was "similar to the uncertainty associated with conventional KXRF systems in pediatric populations." *Id.*

Dr. Specht opines that his pXRF measurements of the bellwether Plaintiffs are more reliable than the pXRF measurements of pediatric populations in his previously published work. First, later studies on pXRF bone lead measurements in fish and birds resolved the calibration problems that affected the results noted in both of his pediatric studies. *See* Aaron Specht et. al., *Feasibility of a portable X-ray Fluorescence device for bone lead measurements of condor bones*, 615 Sci. of the Total Environ. 398 (2018) ("Specht (2018)"); Aaron Specht et al., *Lead exposure biomarkers in the Common Loon*, 647 Sci of the Total Environ. 639 (2019) ("Specht (2019b)"). Second, the pXRF measurements, when properly analyzed, determine not only the lead content of the subjects' bone, but also the uncertainty associated with that measurement. The uncertainty values for pediatric subjects in Dr. Specht's previous study were high (on average, 10μg/g) (Specht (2019a) at *8), but the uncertainty values for the bellwether Plaintiffs were uniformly low (between 0.49 and 3 μg/g, *see* ECF No. 330-48, PageID.15638–15643.) Third, a longer measurement

time was used in the bellwether measurements than in the pediatric studies (3 minutes rather than 2), also resulting in higher reliability.

On May 11, 2021, VNA filed a motion seeking to exclude Dr. Specht's opinions. (ECF No. 343.) The Court heard oral argument on the motion on November 2, 2021. (ECF No. 410.)

II. Legal Standard

The admissibility of expert testimony is governed by Federal Rule of Evidence 702, which sets forth three requirements: (1) the witness must be qualified, (2) the testimony must be relevant, and (3) the testimony must be reliable. Fed. R. Evid. 702; *In re Scrap Metal Antitrust Litig.*, 527 F.3d 517, 528–29 (6th Cir. 2008). As the Supreme Court explained in *Daubert*, Rule 702 imposes a "gatekeeping" obligation on the courts to ensure that scientific testimony "is not only relevant, but reliable." *Daubert*, 509 U.S. at 589; *See also Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 147 (1999).

Daubert provides a non-exclusive list of factors courts may consider when evaluating reliability: (1) whether the theory or technique at the basis of the opinion is testable or has been tested, (2) whether it has been subjected to peer review or been published, (3) what the known error

rates are, and (4) whether the theory or technique is generally accepted. *Daubert*, 509 U.S. at 593; *see also In re Scrap Metal*, 527 F.3d at 529 (listing same factors). Not every factor needs to be present in every instance, and courts may adapt them as appropriate for the facts of an individual case. *Kumho* 526 U.S. at 150.

"Rejection of expert testimony is the exception, rather than the rule." *United States v. LaVictor,* 848 F.3d 428, 442 (6th Cir. 2017) (quoting *In re Scrap Metal*, 527 F.3d at 529–30)). Nevertheless, the burden is on Plaintiffs to show by a "preponderance of proof" that the proffered expert meets the standards of Rule 702 and *Daubert*. *Pride v. BIC Corp.*, 218 F.3d 566, 578 (6th Cir. 2000) (quoting *Daubert*, 509 U.S. at 592).

III. Analysis

The central question in VNA's motion is whether Dr. Specht's use of pXRF to measure bone lead in the bellwether Plaintiffs is sufficiently reliable to pass muster under *Daubert*. VNA argues that it is not, primarily because (1) Dr. Specht's own research shows pXRF measurements of bone lead to be less reliable in pediatric than in adult (ECF No. 330-7, PageID.14445–14455), and (2) the lack of bone lead

measurements in healthy control populations makes it impossible to assign any significance to the measurements Dr. Specht obtained (*Id.* at PageID.14461–14474). VNA ultimately maintains that Dr. Specht's use of pXRF does not satisfy even a single *Daubert* factor.

VNA further argues that Dr. Specht's testimony should be excluded under Federal Rules of Evidence 401(a), 402, and 403, because it is irrelevant and would be more prejudicial than probative. (ECF No. 330-7, PageID.14475–14479.) Finally, VNA asserts that Dr. Specht's opinion regarding the higher reliability of bone lead measurements when compared to blood lead measurements is unreliable and based on "cherry picked" studies. (ECF No. 330-7, PageID.14480–14481.)

Defendants' concerns about Dr. Specht's methodology and conclusions are not without merit. But, for the reasons stated below, the weaknesses Defendants identify are not sufficiently serious to warrant exclusion. They are more appropriately weighed by a jury.

A. Reliability of Portable-XRF Technology

VNA's central contention is that the pXRF technology utilized by Dr. Specht is too new and unreliable for use at trial. According to VNA, all *Daubert* factors weigh against admission.

1. Testability

As to the first *Daubert* factor, VNA asserts that Dr. Specht's methods are unreliable because they cannot be validated by testing. (*e.g.*, ECF No. 343, PageID.21611–21613.) This claim is inconsistent with VNA's own repeated assertions that testing has already *in*validated his techniques. (*Id.*, PageID.12604 (asserting that Dr. Specht's own research "has demonstrated" that pXRF is not reliable in children)).

VNA's real complaint is that *they* cannot replicate Dr. Specht's tests because they cannot acquire a pXRF machine and do not know precisely how Dr. Specht configured his device and software. But this misunderstands the applicable standard: *Daubert* does not require that any individual test-*result* is replicable—let alone that *defendants in this case* should be able to replicate it. The relevant question is whether a witness' *technique or technology* could be falsified or refuted through the scientific method. *United States v. Gissantaner*, 990 F.3d 457, 464 (6th Cir. 2021) (citing *United States v. Bonds*, 12 F.3d 540, 559 (6th Cir. 1993)). "An untestable scientific theory is all theory and no science." *See Gissantaner*, 990 F.3d at 463. Clearly, the use of pXRF devices to measure bone lead content can be and has been tested, for instance, when

researchers compared pXRF to KXRF results. *E.g.,* Specht (2014), Specht (2019a), Specht (2019b).

Accordingly, the testability factor weighs strongly in favor of admission.

2. Peer-Review and Publication

VNA next argues that Dr. Specht's pXRF measurements fail the peer-review and publication factors. Plaintiffs point out that multiple scientific papers validate the use of pXRF devices to measure bone lead, including in living human subjects. (ECF No. 368, PageID.23347–23353.) VNA in turn argues that those same studies acknowledge pXRF to be less reliable when used on children. Indeed, in 2016 Dr. Specht wrote that "future measurements of children using this technology may be feasible, but further investigation on the effect of bone composition and an improved calibration method would be necessary to obtain more accurate results." (ECF No. 343-10, PageID.21700).

Citing Dr. Specht's deposition testimony, Plaintiffs argue that improvements in calibration and the use of a 3-minute, rather than a 2-minute measurement time mitigates these reliability concerns in this case. (ECF No. 368, PageID.23352–23353.) Published research

establishes that a longer measurement time significantly improves accuracy. *See* Zhang (2021). Moreover, Dr. Specht's more recent research on bird and fish bones establishes that the altered calibration settings also improve accuracy. Specht (2018); Specht (2019b).

The publications confirming that Dr. Specht's improvements are effective are not conclusive on their own, given that they do not concern pediatric measurements. Significantly, however, the measurements taken of the bellwether Plaintiffs revealed low uncertainty values. In this case, as in all of Dr. Specht's previous studies, data from the pXRF device itself was used to derive an uncertainty value. For instance, the average uncertainty in Dr. Specht's previous pediatric study was approximately 10μg/g (*See* Specht (2019a) at 420–21). Uncertainty values for the bellwether Plaintiffs' bone lead measurements were much lower (between 0.49 and 3 μg/g). These values are comparable to, if not better than, the standard uncertainty associated with use of a KXRF in pediatric populations. *See, e.g.*, Specht (2016) (concluding that, when used in children, KXRF uncertainty was approximately 2.66 μg/g.) Nothing in the literature suggests that Dr. Specht's calculation of the uncertainty value is unreliable.

The parties' disagreement about the uncertainty of the measures taken in this case points to a further weakness in VNA's position. The core of the *Daubert* inquiry is to determine whether a particular theory, technique, or technology is sufficiently scientific to be reliable—not whether a specific set of measurements is accurate. Put another way: the *Daubert* analysis does not concern an expert's conclusions, only the underlying "methodology and principles." *United States v. Bonds*, 12 F.3d 540, 556 (6th Cir. 1993). As the Sixth Circuit has emphasized, "a determination that proffered expert testimony is reliable does not indicate, in any way, the correctness or truthfulness of such an opinion." *In re Scrap Metal*, 527 F.3d at 529. Even if the evidence itself is "shaky," that does not render it inadmissible: "vigorous cross examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." *Id.* at 532 (citing *Stecyk v. Bell Helicopter Textron, Inc.*, 295 F.3d 408, 415n3 (3d Cir. 2002)).

VNA points to Dr. Specht's previous acknowledgements that pXRF is less reliable in pediatric use. But nothing in those studies shows that the use of pXRF—on children or on anyone else—lacks a scientific basis.

To the contrary, the studies set forth above each validate the use of pXRF generally. There is no suggestion that it is unscientific to use pXRF on children or that the results are so unreliable as to be meaningless. Rather, data from the pXRF device itself can be used to determine the level of uncertainty associated with each measurement, and such determinations can be made using uncontroversial methods that have been subjected to peer review. *E.g.,* Zhang (2021), Specht (2019a; 2019b). This data was collected for each Plaintiff, and the uncertainty was low. (ECF No. 330-48, PageID.15638–15644.)

Ultimately, VNA's arguments do not show that Dr. Specht's methods are unscientific. Defendants may use Dr. Specht's previous publications to attack his credibility at trial, using "vigorous cross-examination." *In re Scrap Metal,* 527 F.3d at 529. But the Court will not exclude Dr. Specht's testimony on the basis of alleged inaccuracies or weaknesses in his conclusions. *Cf. United States v. Mustafa D. Reynolds*, No. 1:20-cr-24, 2021 WL 3750156 at*2 (W.D. Mich. Aug. 25, 2021) (adequacy of tests conducted "goes to the accuracy of the testing, which is fodder for cross-examination rather than a reason to exclude the

evidence"). The publication and peer-review factors therefore weigh in favor of admission of Dr. Specht's testimony and report.

3. Error Rates

Defendants next claim that pXRF measurements in children are inadmissible because they are too prone to error to be reliable. This is essentially a repetition of the arguments just discussed. Error rates were provided for each measurement taken in this case and they were low. Published, peer-reviewed research treats the error rates derived from pXRF spectrometry data as reliable. *E.g.*, Zhang (2021); Specht (2019a). VNA does nothing to attack this research and instead re-emphasizes the fact that these studies also found higher error-rates in children than in adults. But that argument does not show—or even suggest—that the low error rates in this case were determined unscientifically. VNA cites to the measures of uncertainty provided in Dr. Specht's earlier research to argue that his methods are unreliable—but where those very same measures show the opposite, VNA claims they must be rejected. That position is inconsistent and unpersuasive.

In the absence of any argument against the methods used by Dr. Specht to establish uncertainty values—methods which have themselves

been evaluated through the peer-review and publication system—the Court has no reason to doubt the reliability of those determinations. Finally, even if the error rate were determined in an inadequate way, this alone would not justify exclusion of the evidence. *Bonds*, 12 F.3d at 560 (finding that the rate of error weighed against admission but that the evidence was properly admitted).

Accordingly, the error-rate factor does not weigh against admission.

4. Generally Accepted Standards and General Acceptance in the Scientific Community

Defendants also maintain that Dr. Specht's methodology has not been generally accepted and is not subject to general standards, because Dr. Specht is the only researcher pioneering the use of pXRF technology. (ECF No. 343, PageID.21616.) VNA Defendants overstate their argument on this point.

As an initial matter, while Dr. Specht is the pre-eminent figure in the development of pXRF in *in vivo* studies, he is hardly the only researcher in this field. Indeed, in each of the studies to which both parties refer, Dr. Specht has several collaborating co-authors. *E.g.*, (Specht (2014), Specht (2019a)). And the large-scale Zhang study of

subjects in Indiana and Chicago was completed largely without Dr. Specht's involvement, by a separate group of researchers. Zhang (2021).

In addition, the pXRF technology at issue in this case is not as novel as VNA suggests. Portable XRF devices have a long history of use in non-medical contexts.[1] Their use in human subjects is informed by the protocols for KXRF devices, which have been used on human subjects for decades. (ECF No. 330-48, PageID.15639–15631.) Dr. Specht's own methods have been subjected to almost a decade of peer review, and they have not come under attack as unscientific or otherwise lacking. Nothing suggests that Dr. Specht relied on the kind of "junk science" that *Daubert* forbids. *Best v. Lowe's Home Centers, Inc.*, 563 F.3d 171, 177 (6th Cir. 2009).

VNA cites the testimony of Dr. Howard Hu (an expert Defendants deposed but did not retain) who testified that bone lead measurements in children have "more measurement error" and that he did not really "see [their] utility." (ECF No. 343, PageID.21617.) These comments do

[1] *See, e.g.*, Ioannis Liritzis & Nikolaos Zacharias, *Portable XRF of Archeological Artifacts: Current Research, Potentials and Limitations*, 2010 Geoarcheology 109; Bifeng Hu et. al., *Application of portable XRF and VNIR sensors for rapid assessment of soil heavy metal pollution*, 2017 Plos One 0172438.

not go directly to the general acceptance of pXRF as a scientifically reliable method for measuring bone lead—in fact, Dr. Hu himself participated in some of Dr. Specht's studies. For instance, he co-authored the 2016 study conducted on children in China. Dr. Hu also testified that pXRF is not "widely used." *Id.* But so long as pXRF is scientifically reliable, the fact that it is not widely used does not make it inadmissible.[2] As *Daubert* itself concluded, "'general acceptance' is not a necessary precondition to the admissibility of scientific evidence…but the Rules of Evidence…do assign to the trial judge the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." *Daubert*, 509 U.S. at 597.

In the end, VNA's argument again amounts to a challenge to the use of pXRF to measure bone-lead in children. But "challenges to the application of a methodology go to the weight of the evidence, not its admissibility." *United States v. McCluskey*, 954 F. Supp. 2d 1224, 1251 (D.N.M. 2013) (collecting cases). The pXRF technology itself is widely accepted in the scientific community. Recent publications likewise

[2] VNA also cites to media reports and the reactions of a local medical doctor in Flint. These citations are plainly irrelevant to the general acceptance of pXRF technology in the relevant scientific community.

validate the use of pXRF to measure bone lead in human subjects specifically. Defendants may cast doubt on the application of this technology to the children in this case—but the trial is the appropriate place for such arguments, and a jury the appropriate audience.

For these reasons, the *Daubert* factors each support a finding of admissibility. Even if Defendants are right that Dr. Specht's findings are inaccurate or prone to error, the remedy is to mount an effective defense at trial, not to exclude the testimony altogether. *In re Scrap Metal*, 527 F.2d at 532.

B. Relevance of Dr. Specht's Opinions

VNA further argues that Dr. Specht's results are not relevant, will not aid the trier of fact, and are based on "nothing more than his own say-so." (ECF No. 330-7, PageID.14464.) VNA again overstates its case.

Evidence is relevant for purposes of Rule 702 when there is a "factual issue in dispute that expert testimony can clarify." *United States v. LaVictor*, 848 F.3d 428, 442 (6th Cir. 2017) (citing *Lee v. Smith & Wesson Corp.*, 760 F.3d 523, 527–28 (6th Cir. 2014)). As the Sixth Circuit has recently reiterated, "the relevancy bar is low," and "the rejection of expert testimony is the exception, rather than the rule." *LaVictor*, 848

F.3d at 442 (quoting *In re Scrap Metal*, 527 F.3d at 529–30)); *see also Mactec, Inc. v. Bechtel Jacobs Co., LLC*, 346 F. App'x 59, 77 (6th Cir. 2009) (relevancy requirement should be read broadly) (quoting *Morales v. Am. Honda Motor Co.*, 151 F.3d 500, 516 (6th Cir. 1998)).

It is beyond dispute that the fact and degree of Plaintiffs' exposure to lead is one of the central fact questions in this case. Indeed, Michigan law *requires* Plaintiffs to provide evidence of the fact of exposure. *E.g., Powell-Murphy v. Revitalizing Auto Comm's Environ. Response Trust,* 333 Mich. App. 234, 253 (2020). Dr. Specht's testimony clearly goes to this central fact. It is therefore relevant.

VNA argues that Dr. Specht cannot helpfully contextualize his measurements of Plaintiffs' bone lead because there is no national standard for 'normal' bone lead content. (ECF No. 343, PageID.21620–21621.) Thus, VNA concludes, Dr. Specht's determination that Plaintiffs were subjected to a "substantial" exposure of lead is based on "nothing more than his own say-so." (*Id.*)

But VNA's assertion that Dr. Specht provides no basis for his opinion beyond his own hypothesizing is without merit. Dr. Specht points to his own pediatric studies and a colleague's study of children's bone lead

levels in Canada to justify his finding that the exposure was "substantial." (*See* ECF No. 431, PageID.32932–32942.) Both of these studies found that children in unexposed control groups had a bone lead content of approximately zero. *Id.*

The core of VNA's argument against the relevance of this evidence is that there are significant weaknesses in this comparison. Primarily, Dr. Specht compares his own *pXRF* values to the *KXRF* measurements in the other studies, whereas it would be more reliable to compare one set of pXRF measurements to another. This is true, of course, but it does not establish that Dr. Specht's testimony is not *relevant*.[3] Dr. Specht, using appropriate scientific methods, determined a bone lead value for each Plaintiff and assigned a significance to those results by comparing them to other, peer-reviewed studies of children who were unexposed to lead. Moreover, the fact and degree of exposure to lead in Plaintiffs is clearly a "factual issue in dispute," and Plaintiffs' bone lead content is an

[3] Nor does this weakness cast sufficient doubt on Dr. Specht's methodology to warrant exclusion under the *Daubert* factors, for the reasons set forth above. The lack of comprehensive comparative data does not invalidate Dr. Specht's methodology. At most, it provides a promising avenue for "vigorous cross-examination." *In re Scrap Metal,* 527 F.3d at 529.

indicator of such exposure. *Cf. LaVictor*, 848 F.3d at 442. Accordingly, Dr. Specht's testimony is relevant.[4]

C. Dr. Specht's Opinion Regarding the Half-Life of Lead in Children's Blood

VNA separately challenges Dr. Specht's opinion that blood lead measurements are highly time-sensitive because of the short half-life of lead in children's blood. (ECF No. 343, PageID.21636–21638.) Although VNA asserts that this opinion is "unreliable," it does not address Rule 702 or the *Daubert* factors. Instead, VNA argues that Dr. Specht failed to review the broader literature and misrepresented his own findings. These arguments have no merit.

Dr. Specht's report includes discussion of several studies beyond Dr. Specht's own pediatric study in China to substantiate his opinion that blood lead values are inaccurate and unhelpful markers of long-term exposure. (*See* ECF No. 330-48, PageID.15628 (citing to six studies on

[4] Defendants rely on a 1998 case from Pennsylvania which held that KXRF bone lead measurements were not admissible because "there is no agreed upon standard against which to test the readings." *Dombrowski v. Gould Elecs., Inc.*, 31 F. Supp. 2d 436, 442 (M.D. Pa. 1998). At the time, KXRF was still not generally accepted in the scientific community, and research on bone lead was a rarity. *Id.* at 442–43. As has been explained above, that is no longer true. Moreover, decisions within the Sixth Circuit consistently emphasize that the standard for relevance is low. Hence, *Dombrowski* does not support Defendants' arguments.

blood lead measurements)). Dr. Specht's published work also cites to researchers in the broader literature drawing the same conclusion. *See, e.g.*, Specht (2019a) ("adult studies typically agree on a blood Pb half-life of 20-30 days") (citing sources)). VNA's claim that Dr. Specht relies exclusively on his own work while disregarding the broader literature is inaccurate.

It is true that Dr. Specht's report asserts that "children have a blood lead half-life of less than one week," (ECF No. 330-48, PageID.15627) whereas his studies show a half-life of 9.96 days (plus or minus 3.92) or 19.3 days (plus or minus 14.1), depending on age. (ECF No. 343, PageID.21637.) This minor inconsistency does not affect the central conclusion drawn by Dr. Specht: that the half-life of lead in children's blood is "incredibly time sensitive." (ECF No. 330-48, PageID.15627.)

VNA attempts to assail that conclusion by citing their own expert, who draws contrary conclusions. (ECF No. 343, PageID.21638.) But this battle of the experts is properly fought at trial. *Phillips v. Cohen*, 400 F.3d 388, 399 (6th Cir. 2005) (competing expert opinions present a "classic battle of the experts," and it is up to a jury to "evaluate the credibility of each expert") (quoting *Cadmus v. Aetna Casualty and*

Surety Co., 1996 WL 652769 (6th Cir., Nov. 7, 1996)); *accord Fox v. Mass. Bay Ins. Comp.*, No. 2:13-cv-02567, 2015 WL 11017961 at *3 (W.D. Tenn. 2015) (*Daubert* test does not require "that the court look to one expert to determine the credibility of another expert's determination.")

Accordingly, this portion of Dr. Specht's report is also admissible.

D. Prejudice and Relevance Under Rules 401(a), 402 and 403

Lastly, VNA argues that Dr. Specht's testimony and reports are not admissible because they are irrelevant under Federal Rules of Evidence 401(a) and 402, and prejudicial under Federal Rule of Evidence 403. (ECF No. 343, PageID.21633-36.)

For the reasons stated above, Dr. Specht's testimony is relevant. It is therefore admissible under Rules 401(a) and 402, just as it was admissible under Rule 702.

Rule 403 provides "a balancing test for excluding relevant evidence," which is "strongly weighted toward admission." *United States v. Asher*, 910 F.3d 854, 860 (6th Cir. 2018). Exclusion is appropriate only when the "probative value is substantially outweighed by the danger of unfair prejudice." *Id.* (citing *Huddleston v. United States*, 485 U.S. 681, 687 (1988)). Where expert testimony presents a risk that a jury will

misunderstand it, "a district court…could require advocates to describe it in a way that will not generate unfair prejudice or mislead the jury." *Gissantaner*, 990 F.3d at 470 (citing Fed. R. Evid. 403) (cleaned up).

Whether and to what degree Plaintiffs were exposed to lead is one of the central questions of this case. Dr. Specht's testing goes directly to that question and is therefore highly probative.

To be sure, as VNA points out, Dr. Specht's testimony does not go to causation, or to any particular Defendant's responsibility for the exposure. VNA's primary concern is that Dr. Specht's testimony will be misunderstood by the jury and cause a hasty inference of causation. But Dr. Specht has clearly stated that he is not an expert on causation, and Plaintiffs assure the Court they will not use Dr. Specht's testimony or report to establish causation. (ECF No. 368, PageID.23373) ("[Dr. Specht's] anticipated testimony is limited to the results of the pXRF testing.")

Because the results of pXRF testing are highly relevant, and Defendants' concerns can be mitigated by a proper jury instruction (and, if appropriate, an order preventing Dr. Specht from testifying on

causation), Dr. Specht's expert testimony is not inadmissible under Rule 403.

IV. Conclusion

For the reasons set forth above, Dr. Specht's opinions are not unreliable, irrelevant, or more prejudicial than probative. VNA's motion to exclude his testimony and report is therefore DENIED.

IT IS SO ORDERED.

Dated: November 17, 2021
Ann Arbor, Michigan

s/Judith E. Levy
JUDITH E. LEVY
United States District Judge

CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing document was served upon counsel of record and any unrepresented parties via the Court's ECF System to their respective email or First-Class U.S. mail addresses disclosed on the Notice of Electronic Filing on November 17, 2021.

s/William Barkholz
WILLIAM BARKHOLZ
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